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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Norbert Rodler

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EXAMINER

MUI, CHRISTINE T

ART UNIT

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1797

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/590,971	Applicant(s) RODLER ET AL.	
	Examiner CHRISTINE T. MUI	Art Unit 1797	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 March 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) 1-9 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 10-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments, see REMARKS, filed 21 March 2008, with respect to the oath/declaration have been fully considered and are persuasive. The defectiveness of the oath/declaration has been withdrawn.
2. Applicant's arguments, see REMARKS, filed 21 March 2008, with respect to the drawings have been fully considered and are persuasive. The objection of the drawings has been withdrawn.
3. Applicant's arguments, see REMARKS, filed 21 March 2008, with respect to the specification have been fully considered and are persuasive. The objected of the specification has been withdrawn.
4. Applicant's arguments, see REMARKS, filed 21 March 2008, with respect to claim 17 have been fully considered and are persuasive. The objection of claim 17 has been withdrawn.
5. Applicant's arguments, see REMARKS, filed 21 March 2008, with respect to the rejection(s) of claim(s) 10-19 under 35 USC 102(b) and 35 USC 103(a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn.

However, upon further consideration, a new ground(s) of rejection is made in view of US Publication No. 2002/0068017 to Naatz et al; US Publication No. 2003/0183801 to Yang et al; USP 5,473,162 to Busch et al.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 10-15 and 17-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Publication No. 2002/0068017 to Naatz et al (herein referred

'Naatz'), and further in view of US Publication No. 2003/0183801 to Yang et al (herein referred 'Yang').

5. Regarding claim 10, the reference Naatz discloses a wide-range TOC instrument using plasma oxidation. The instrument is used to measure the carbon dioxide from an aqueous or gaseous sample by admitting the sample and an oxidant gas to a cell transparent to plasma. As seen in Figure 5, the experimental arrangement can be seen where the plasma reactor cell which includes an inlet and outlet ports and electrodes attached to the opposite sides of the cell and is initially filled with an oxygen containing gas from a gas supply and is established through the internal volume of the cell. This is considered to be the measurement cell. The bottom liquid loop is considered to be the reaction loop where a gaseous sample of ethanol in the sample flask is pumped by a pump so that the gas to be tested is allowed to flow through the loop and then transferred through to the inlet of the plasma cell. The oxidant gas is circulated in the upper gas loop, which is considered to be the measurement loop, containing a pump, condenser and detector (see abstract, Figure 5, [0027-0032]. It is interpreted by the examiner that the plasma cell is the sample loop where it has a defined volume where only a specific amount of oxygen containing gas is administered to the plasma cell based on its size and the oxygen containing gas is able to flow through the reaction circuit to the measurement circuit by means of switching valves contained in the set up. Naatz does not disclose the sensor or the plasma cell in the reference to receive an OSI material. Yang discloses an oxygen scavenging composition to be used for maintaining and enhancing quality and shelf life of package products where it can be placed in the

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inner or outer side of the package (see abstract, [0001-0004]). It would have been obvious to one having ordinary skill in the art at the time the invention was made to place the OSI material in the cell so that one can determine the amount of oxygen that is subjected to the cell and determine how effective the OSI material is in preserving and maintaining the shelf life of a package products.

6. Regarding claim 11, the reference Naatz and Yang disclose the claimed invention. Naatz discloses the plasma cells, which is considered to be the measurement cell, comprises an inlet port and a first and second outlet port that functions as the gas/liquid separators. The gas that is administered to the plasma cell is supplied from a sample flask that contains the gas to be withdrawn to be tested and pumped through the bottom loop by pumps. The plasma cell comprises of the dimensions of 13x2.15x0.55 cm where this defines a particular volume that can be added to the plasma cell when being tested. Furthermore, gas flow through the upper loop is controlled by a pump as well and plasma cell can be closed off by closing the valves for further addition of gases to the cell to be tested (see [0029-0032]). It is interpreted by the examiner that the plasma cell that is between the upper loop and bottom loop of Figure 5, is the measurement cell that is considered a closed circuit when the valves on either side of the cell are closed upon testing and when gas is no longer administered to the cell.

7. Regarding claim 12, the references Naatz and Yang disclose the claimed invention. Naatz discloses the upper circuit, which is considered to be the measurement circuit has a by-pass area of the circuit when appropriate valves are

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opened and closed so that the supply of gas flow that is pumped through the arrangement from one circuit to the other, from the measurement circuit to the reaction circuit, when passing through the plasma reaction cell (see Figure 5).

8. Regarding claim 13, the references Naatz and Yang disclose the claimed invention. Yang discloses an oxygen scavenger material that is used to enhance and maintain the quality and shelf life of package products. Naatz discloses the gas sample content is measured by a detector that indicates when the oxidation is complete. The detection can be accomplished with any conventional carbon dioxide detection system such as non-dispersive infrared or Fourier transform infrared spectroscopy (see [0019, 0037], Figure 5). It is interpreted by the examiner that the NDIR or FTIR detectors include integrators for performing numerical operations.

9. Regarding claim 14, the references Naatz and Yang disclose the claimed invention. Naatz discloses that in Figure 5, a gas such as air is admitted to a column filled with lime, for absorbing all of the CO₂ from the ambient air. The stream of oxidant air is then passed through a water filled flask to remove dust particles from the soda lime and column and to saturate the air stream with water vapor (see [0032]). It is interpreted by the examiner that the flask of water where the oxygen containing gas is passed through is a device for regulating the amount of moisture that is subjected to the cell and would be the same as using a humidification unit. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use a humidification unit rather than a flask of water to regulate the moisture content of the gas with more accuracy.

10. Regarding claim 15, the references Naatz and Yang disclose the claimed invention. Naatz discloses that the plasma cell is an elongated flat rectangular chamber made of borosilicate or quartz glass (see [0027]). It is known in the art that borosilicate glass and quartz glass each have a minimum wavelength for optical transmittance.

11. Regarding claim 17, the reference Naatz and Yang discloses the claimed invention. Yang discloses the oxygen scavenging material includes a colorant, so that upon the detection and accumulation of oxygen, the material changes color (see [0011]). It would have been obvious to one having ordinary skill in the art at the time the invention was made to have the color of the OSI material change color so that one does not need to use additional detection devices or apparatuses for the presence of a particular amount of oxygen in the cell other than the unaided eye.

12. Regarding claim 18, the references Naatz and Yang disclose the claimed invention. Naatz discloses the experimental arrangement includes a plurality of valves as seen in Figure 5 to directing the sample through the set up to the detector to be evaluated. It is interpreted by the examiner that when the samples enter the plasma reactor cell, the appropriate valves may be closed to direct the sample from the lower circuit to the upper circuit, from the reaction circuit to the measurement circuit.

13. Regarding claim 19, the reference Naatz and Yang discloses the claimed invention. Naatz discloses an experimental arrangement according to the invention, but it would have been obvious to one having ordinary skill in the art at the time the invention was made to encase the entire set up so that there is a housing surrounding

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the arrangement to prevent any contamination from the surroundings and enclose all the parts of the arrangement to keep all the parts together.

14. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Naatz and Yang as applied to claim 15 above, and further in view of USP 5,473,162 to Busch et al (herein referred 'Busch').

15. Regarding claim 16, the references Naatz and Yang disclose the claimed invention except for a US radiation source which irritates a material in the measurement cell. Busch disclose an apparatus for the detection of a gas to qualitatively and quantitatively analyze the infrared emission from excited molecules in the determination of total inorganic carbon. An organic material is first oxidized and carbon dioxide is generated and the oxidation is determined by NDIR absorption spectrophotometry. The partial humidity control of the reaction gases is flushed into the infrared cell and absorption measurements are made. The use of radiation can be used as well in the detection of oxidized organic materials (see abstract, column 15, line 66-column 16, line 20). It would have been obvious to one having ordinary skill in the art at the time the invention was made to subjected the cell with walls that are transparent to a settable wavelength region to a UV radiation source so that one can irradiate the sample at a particular wavelength within the measurement cell while eliminating the transmission of other sources in the environment that the cell is subjected to.

Conclusion

1. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CHRISTINE T. MUI whose telephone number is (571)270-3243. The examiner can normally be reached on Monday-Thursday 7-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Walter Griffin can be reached on (571) 272-1447. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

CTM

/Walter D. Griffin/
Supervisory Patent Examiner, Art Unit 1797